Blackfoot Emergency Drought Response Plan

2000 - 2006

Locally Led

Collaborative

Basin-wide

BLACKFOOT RIVER WATERSHED

The Blackfoot River is 132 miles long.

The Blackfoot Watershed is 1.5 million acres.

Plan Purposes:

- Aid equitable distribution & shared sacrifice of water resources basin-wide.
- Minimize impacts on fishery resources.
- Interim response
- Long-term goal-- stream restoration, habitat improvement, and irrigation and water efficiency

Plan Premise:

- Shared Sacrifice
- Voluntary actions
- Equity and Parity in participation:
  - Junior and Senior water users
  - Multiple users and uses
  - Basin-wide participation

Basin Water Use

- **3,185 surface water rights in basin.**
- **40% (1,270 water rights) > 1 cfs (448 gpm)**
- **65% irrigators.**
- **10% of these water rights are on the Blackfoot river main stem.**

DNRC water rights data base - 2000

Basin Water Use
In-stream flows

- In-stream flows in Blackfoot River mainstem are protected.
- Legislatively created Murphy Rights
- Priority Date– January 6, 1971.
- Montana Stream Adjudication has not yet begun in the Blackfoot Basin

Basin Water Use
Junior water users

- 258 water rights are junior to the in-stream flow created by the Murphy Right.
- 26% (67) of these “junior water rights” are greater than 1 cfs. Of these, 57 are for irrigation
- 19% (49) are located within the Murphy Right Reaches.

Drought Plan Approach

- Plan - 700 cfs at river mouth, Bonner MT
- Use “Water Conservation Plans” to make up difference between 700 cfs and projected summer low flow.
- Use “water bank” to match senior and junior water users, by reach, to protect in-stream flow.
- Include all water users, anglers and outfitters in voluntary ‘shared-sacrifice” plan.
- Maintain flows - minimize high water temperatures.
- Junior water users who do not participate in the plan are subject to MT FW&P call.

Scheduling:

February:

Committee Meets

Review conditions

Discuss needs

Media outreach to community

March: **(In drought years)**

Raise Public Awareness - early warning

Recruit technical & field staff support

Scheduling:

April – Drought Years

- Host Community Meeting
- Increase Awareness
- Began affirming participation

May – Drought Years

- Warning letter to all juniors water users
- Follow-up notice to Plan Participants
- Poster, flyers & Media Contacts

June – September

Implement drought plan based upon flow and temperature triggers.

- Continue media & public out reach.
- Monitor participation, conditions and plan effectiveness

Drought Plan Triggers

Resource conditions trigger specific actions.

1. Critical stream flow levels
   - 700, 600, & 450 cfs.

2. Stream temperatures

Flow Trigger
700 cfs

Actions Taken:

1. **Contact Plan Participants to implement Conservation Plans.**
2. **Confer with FWP regarding low flow & temperature conditions.**
3. **FWP/DNRC begin monitoring river/streams**
4. **Drought Committee recommends "Call List" to FWP.**
5. **FWP reviews/issues Murphy Right "Call."**

Temperature Triggers

- More than a single temperature at a single location.
- Recommendations based upon:
  - A range of temperatures,
  - Temperatures taken over a period of time,
  - Temperatures Measured at several locations,
  - With consideration of species of concern.
    - (bull trout or cut trout vs. rainbow and brown trout)

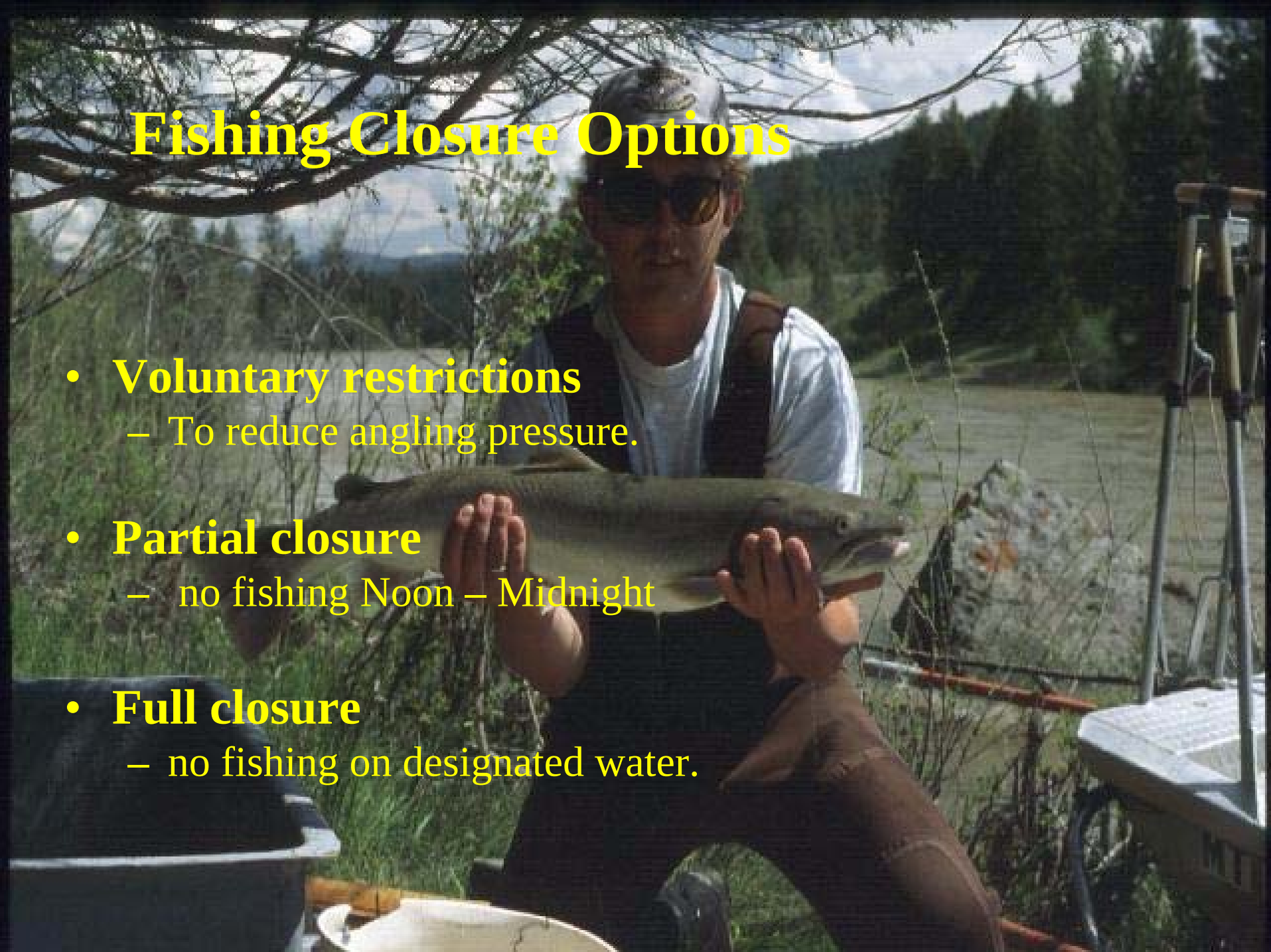
Thresholds for Salmonids (excluding Bull Trout)

–Flows are at the 95% monthly exceedence level (95th percentile of normal, long-term records); **and/or**

– Daily maximum water temperature is 73 degrees F (23 degrees C) for three consecutive days.

Thresholds for Bull Trout

- Bill trout are vulnerable to warm temperatures.
- In critical bull trout spawning and rearing streams,
  - water temperature equals or exceeds 60 degrees F (15 degrees C)
    - daily maximum
    - for three consecutive days



Fishing Closure Options

- **Voluntary restrictions**
  - To reduce angling pressure.
- **Partial closure**
  - no fishing Noon – Midnight
- **Full closure**
  - no fishing on designated water.

Water Conservation Plans 2001

Estimated conserved water demand 210 cfs.

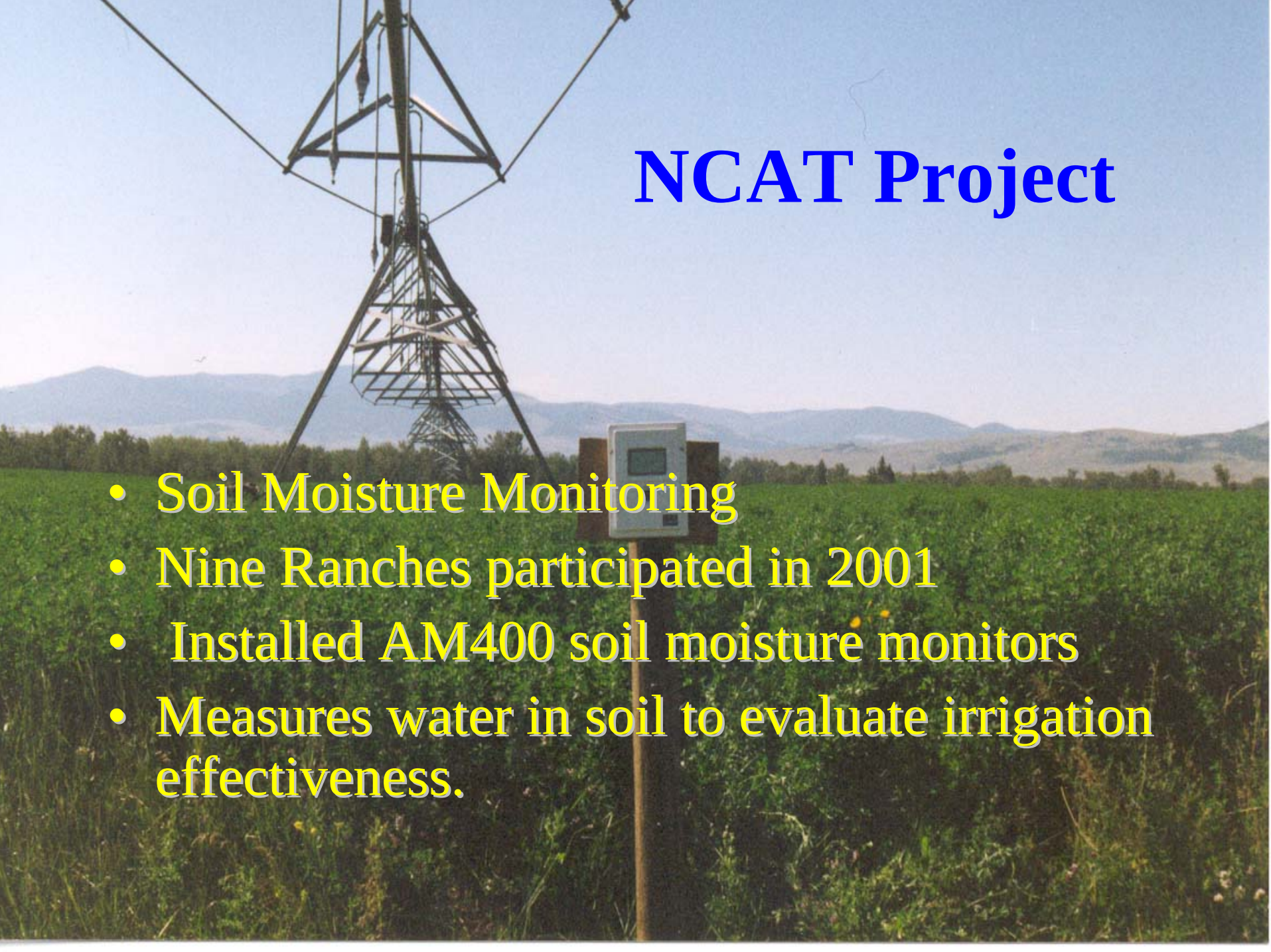
73 Water User Participated:

- 27 users shut down systems **(flows < 700 cfs)**
- 19 users reduced use
- 6 users left systems off
- 7 users applied combination of the above
- 14 users systems inactive

14 water users pooled water rights & 2 relied upon the “water bank” for critical irrigation.

Conservation Plans for Anglers/Recreationists

- Voluntary angling restrictions.
- Outfitters & Guides limited trips- -
  - mornings & voluntary closures. -
  - moved to other rivers & streams.
- Mandatory angling & recreational restrictions (2000 only).



NCAT Project

- Soil Moisture Monitoring
- Nine Ranches participated in 2001
- Installed AM400 soil moisture monitors
- Measures water in soil to evaluate irrigation effectiveness.

Measures of Success

- Community support and participation.
- Fishery is better off.
- Mitigated harm to water users and other community values and resources.
- Shared sacrifice and equity.
- Effectiveness in comparison to past efforts or to doing nothing.
- Avoided lawsuits or conflict.

Who's Involved

- Basin residents/local landowners
- Irrigators, agriculture, fishing interests, outfitters
- Blackfoot Challenge
- Big Blackfoot Chapter of Trout Unlimited
- Agency Technical staff
  - USFWS, USGS, USFS, NRCS,
  - FWP, DNRC, TU Western Water Project